

NEW SPECIES OF NORTH AMERICAN MYRMELIONIDÆ.—II.

BY ROLLA P. CURRIE, WASHINGTON, D. C.

Brachynemurus niger, new species.

Female.—Length, 29 mm.; expanse of wings, 56 mm.; greatest width of anterior wing, 7 mm.; length of antenna, 4 mm. Black, marked on head and thorax with luteous; sparsely hairy, more distinctly so on prothorax and abdomen.

Face scarcely convex, luteous, a transverse, shining black band above which extends upward so as to cover the inter-antennal area; this band is notched below, a black line extending from the notch almost to the clypeus; on either side, between face, clypeus and inner orbit of the eye, a triangular black dot. Circumocular area mostly luteous, except along vertex, where it is piceous. Clypeus luteous, on each side anteriorly an impressed dot. Labrum transverse, rounded laterally, emarginate in front, luteous, darker on emargination where it is sparsely clothed with black hairs. Mandibles piceous, black at tips.

Maxillary palpi of moderate length, piceous, with luteous articulations; first two joints short, about as broad as long, subequal, pale; third joint a little longer than first and second together, somewhat curved; fourth joint a little shorter than third; apical joint as long as third, subcylindrical (a little enlarged before apex), black, its tip truncate, luteous.

Labial palpi much longer than maxillary, piceous, with pale luteous articulations; first joint short, about as broad as long; second joint nearly three times as long as first, curved in basal half; apical half darker, widened and flattened, concave on inner side; apical joint greatly enlarged, fusiform, clothed with black hairs, shining black on inflated portion, the sharply-pointed tip luteous; an ocellus-shaped organ* on apical third of inflated portion externally.

Maxillary palpigers † piceous, the anterior joint interrupted in the middle with luteous. Labium luteous, piceous at base. Labial palpigers luteous, each with a black semicircle. Mentum luteous, with a transverse black line or series of dots, behind which rises a long black bristle. Gula luteous.

Antennæ clavate, somewhat shorter than head and thorax, black,

*This organ is present in all American Myrmelionidæ I have seen.

†I apply this term to the angular, elevated pieces from which the maxillary palpi spring.

paler at articulations, clothed with very short dark hairs or bristles ; two basal joints piceous, margined apically with luteous ; basal joint set in a luteous ring.

Vertex elevated behind, rounded, luteous ; post-antennal area fuscous, thinly clothed with white and black hairs ; elevated portion marked by two transverse black bands, the anterior of which is narrow and shining, forming a ridge on each side, posterior band spread out each side to form two large, somewhat triangular spots, and connected with the anterior band by the black longitudinal median furrow ; behind this furrow is a median oval black spot, longitudinally divided by a faint luteous line.

Pronotum as broad as long at base, narrowed anteriorly, truncate in front, sparsely clothed with white and black hairs, especially on margins ; black, a narrow longitudinal median line, which is enlarged at the transverse furrow, and one each side, luteous. Lateral carinae luteous. Beneath luteous, margined on each side with black.

Mesonotum black, lobes not strongly elevated ; anterior lobe with a spot each side near front margin and a longitudinal median line, luteous ; this line is interrupted before the posterior lobe, but continued upon the latter ; another longitudinal luteous line each side (probably a continuation of the spots on anterior lobe) extending to the posterior margin, which is also luteous ; a few spots of similar colour on each lateral lobe ; posterior lobe shining black, except where marked by luteous as mentioned above. Below black, marked with luteous, especially on sides ; sparsely clothed with white hairs.

Metathorax black, with luteous markings similar to those of mesothorax, but no median line on posterior lobe and fewer spots on lateral lobes ; posterior lobe not shining.

Abdomen shorter than wings, rather slender, clothed with white hairs, more thickly at base. Black ; segments (except one or two basal ones) marked on dorsum each side, in middle and at apices, with a luteous spot ; these spots are more pronounced on the apical segments.

Tip clothed with long black hairs ; below a transverse double row of coarse black spines and two short, cylindrical, brown appendages clothed with long black hairs ; a short brownish plate between the latter at their base.

Legs of moderate length, yellow, thickly sprinkled with black ; beset with many black and white spines. Posterior femora almost entirely

black. Tibiæ black at their apices, posterior ones also with a transverse black line of confluent spots externally; spurs slightly curved, a little longer than first tarsal joint, rufo-piceous. Tarsal joints black at apices, the third and fourth entirely so; claws moderately curved, a little more than half the length of last tarsal joint, rufo-piceous.

Wings hyaline; posterior margins slightly sinuate near apices. Pterostigma luteous, black on inner half; before it, several intercostals of anterior wings and a few of posterior, forked. Veins clothed with dark hairs; the costa mostly luteous, the other veins fuscous; the subcosta of both wings and median vein of anterior interrupted, between transversals, with luteous; some other veins, including transversals, also interrupted with luteous.

Anterior wings with a few apical transversals behind median vein clouded with fuscous, especially the one nearest the pterostigma; along basal portion of submedian vein a series of small fuscous spots forming an irregular, somewhat serrate line; an oblique fuscous streak, about 5 mm. to 7 mm. in length, runs from tip of submedian vein to near apex; half way between lower end of this latter streak and outer end of basal streak of submedian vein, an irregular fuscous spot; another fuscous spot or short streak runs obliquely upward from where the post-costal vein joins the hind margin; small forks near tip and hind margin fumose; posterior wings a little shorter than anterior, almost immaculate, except for a fuscous clouding on the extreme apical transversal below median vein, before pterostigma. Posterior borders of both wings fringed with dark hairs.

Type.—No. 3812, U. S. National Museum. One specimen collected at Fort Grant, Arizona, July 20, 1897, by Mr. H. G. Hubbard.

This species is readily distinguishable from others of similar size, colour and wing-markings by the length and size of the labial palpi. These latter, though not as greatly lengthened as in *B. longipalpis*, are considerably more so than in any other species of this genus that I have examined.

Brachynemurus quadripunctatus, new species.

Female.—Length, 24 mm.; expanse of wings, 49 mm.; greatest width of anterior wing, 6.6 mm.; length of antenna, 5.5 mm. Luteous, marked with dark fuscous; clothed with white and some black hairs, more distinctly so on abdomen.

Face scarcely convex, luteous ; above, a pitchy-black band separating the antennæ ; this band sends a median acute prolongation from the anterior border toward the clypeus ; furrow, between face and inner orbit of the eye, fuscous. Circumocular area luteous, except along the depressed portion of the vertex. Clypeus subhexagonal, luteous, on each side anteriorly an impressed dot. Labrum transverse, rounded laterally and narrowed anteriorly, emarginate in front, luteous, a few hairs on emargination. Mandibles piceous.

Maxillary palpi luteous ; first two joints short, about as broad as long, subequal in length, the first somewhat stouter than the second ; third joint somewhat longer than the first and second together, a very little curved, enlarged at apex ; fourth joint straight, a little shorter than third ; apical joint a little longer than third. rufo-piceous (except at articulation, where it is luteous) ; truncate and notched at tip.

Labial palpi somewhat longer than maxillary, luteous ; first joint short, not quite twice as long as broad, enlarged apically ; second joint about three times as long as first, somewhat curved, strongly widened and thickened apically, sparsely clothed with dark hairs ; on inner side at apex a perceptible concavity ; apical joint about same length as second, swollen, fusiform, luteous, clothed with dark hairs ; on the outer side, surrounding the ocellus-like spot, rufo-piceous ; apex narrowed, tinged with rufous ; tip truncate, slightly notched.

Maxillary palpi luteous, clouded with darker. Maxillæ luteous, tinged with rufous. Labium, labial palpi, mentum and gula, luteous ; each side, next anterior portion of maxillary palpi, a brownish area with some dark hairs.

Antennæ clavate, shorter than head and thorax ; luteous, darker apically ; clothed with very short dark bristles or hairs : first and second antennal joints luteous, shining, a piceous spot or two at their bases. Between the antennæ posteriorly, a narrow, transverse luteous band.

Vertex elevated behind, rounded, luteous ; in front, just behind antennæ, a transverse, pitchy-black band : in front, on elevated portion, a transverse, shining-yellow ridge : behind this, four black dots in a transverse row.

Pronotum as broad as long at base, somewhat narrowed anteriorly, luteous ; anterior angles rounded, front margin truncate ; a longitudinal dark fuscous stripe each side near middle line ; on the outer side of each of these stripes another irregular dark fuscous stripe extending forward to

the transverse furrow ; in front of each of these latter stripes, near anterior margin, a fuscous spot. Lateral carinae luteous. Below luteous, on either side, next carinae, a dark fuscous streak, extending nearly as far forward as the dorsal transverse furrow.

Mesonotum luteous, with anterior, posterior and lateral lobes very strongly elevated ; anterior lobe with a broad, dark fuscous stripe each side near middle line ; anteriorly each of these stripes extends outward, then backward along the furrow, separating anterior and lateral lobes, thus forming an inverted U-shaped marking ; each lateral lobe has an elongate spot near middorsal line, and on the outer side of this an inverted "U," the ends of which nearly meet ; posterior lobe with a longitudinal dark fuscous stripe each side and a rather faint median one (sometimes wanting), the posterior margin with a dark dot medially ; posterior angles each marked by two longitudinal, dark fuscous stripes ; a few fuscous dots at place of attachment of anterior wings. Sides and beneath luteous, marked with fuscous.

Metanotum luteous ; the lobes distinctly elevated, but less so than those of mesonotum ; anterior lobe with a U-shaped, dark fuscous marking ; lateral lobes marked similarly to those of mesonotum ; posterior lobe with an inverted, heart-shaped, dark fuscous spot ; posterior angles fuscous, margined with luteous. Sides and beneath luteous, marked with fuscous.

Abdomen shorter than wings, luteous, a longitudinal median dark fuscous stripe above, narrowed or interrupted at articulations ; a similar stripe bounds the dorsum each side ; beneath luteous, a fuscous line each side and a good-sized fuscous spot in the middle of all but the basal segments.

Tip of abdomen luteous, above with long dark hairs ; superior part split, a transverse row of black spines at base ; inferior part beset with black spines ; below, two small cylindrical or slightly clavate luteous appendages, twice as long as broad and armed with dark spines or bristles, project from apex of last segment.

Legs of moderate length, luteous ; armed with some long, and numerous short, black and pale spines ; somewhat hairy. Tibial spurs as long or slightly longer than first tarsal joint, somewhat curved, rufo-piceous. Tarsal joints sometimes rufo-piceous at their apices, third and fourth especially so ; claws somewhat more than half the length of last tarsal joint, moderately curved, rufo-piceous.

Wings hyaline. Pterostigma luteous, on inner side and below margined with fuscous; before it, a few intercostals in anterior wings and a less number in posterior, forked. Veins hairy; costal veins luteous; the other principal longitudinal veins luteous, interrupted with fuscous at junctures of transversals; smaller longitudinal veins luteous, interrupted irregularly with fuscous; transverse veins of costal series and some of the others luteous, the rest fuscous.

Anterior wings with a series of small fuscous spots on basal portion of submedian vein above, at junctures with transversals; three larger fuscous spots at intervals along the apical two-thirds of this vein; bases of a few small apical forks sometimes slightly fumose; posterior wings a little shorter than anterior, unspotted. Posterior borders of both wings fringed with fine hairs.

Male.—Length, 36 mm.; expanse of wings, 49 mm.; greatest width of anterior wing, 6.5 mm.; length of antenna, 6 mm.

Antennæ less clavate than in female. Abdomen one-fifth longer than anterior wings; the markings on the apical segments heavy and more or less confluent; appendages short, half as broad as long, one-half length of seventh segment (viewed from below), subcylindrical, obtuse on tip, luteous, sometimes clouded with, or almost entirely, fuscous; clothed with coarse black spines; between the appendages below, a very short, triangular, luteous plate.

Type—No. 3813, U. S. National Museum. One female specimen collected in San Bernardino County, California, by Mr. D. W. Coquillett.

No. 3813a, U. S. National Museum. One male, taken at Phoenix, Arizona, June 1, 1897; from the collection of Mr. Chas. C. Adams.

Co-types.—One hundred and one females and seventy-two males taken at Phoenix, Arizona, in June, July and August, 1897, kindly loaned me for study by Mr. Chas. C. Adams, of Urbana, Illinois.

This unusually large and fine series of specimens exhibits some variations. In two of the females, and about the same number of males, the face and vertex are suffused with fusco-ferruginous, so that the fuscous markings are less apparent; in a few specimens the band on upper part of face and its prolongation toward the clypeus are subobsolete; in one male the face and clypeus have scattered fuscous spots in place of the usual markings. Small extra spots sometimes occur in the transverse row on the vertex, and two short longitudinal lines or spots are some-

times present behind the two middle dots of the row; the dots are occasionally connected by a narrow transverse fuscous line.

In a few specimens the third and fourth joints of the mixillary palpi are tinged with rufo-piceous, the second joint of the labial palpi is piceous apically, and the third entirely so.

The outer fuscous stripes of pronotum are in some specimens continuous to anterior margin, in others they end at the transverse furrow and are *not* indicated by spots in front of this furrow.

The inverted U-shaped markings on lateral lobes of mesonotum sometimes have their ends joined so as to form circles.

The tarsal joints are not always rufo-piceous at their apices.

CATOCALA ILLECTA, WALK.

In March last, Mr. E. N. Laing, of Essex, Ont., one of our young collectors, whilst on a visit to London availed himself of the opportunity to obtain the names of his captures. Whilst I was looking over his collection, a *Catocala*, with something quite unusual in its appearance to me, arrested my attention; and on comparing it with those in the Society's possession I found it was not there represented. Upon turning up Mr. Strecker's "Lep. Rhop. Et. Het." I found it therein vividly portrayed on Plate XI., fig. 9, and named by him *Catocala magdalena*. Not finding that name in Smith's list of 1891, I had to turn up the Synonymy, and found that it was known as *C. Illecta* of Walker.

It is a particularly attractive moth. Mr. Grote, in Trans. Am. Ent. Soc., Vol. IV., p. 13, says of it: "A broad-winged, moderately stout species, recalling *C. concumbens* in appearance and colour of primaries." This resemblance to *concumbens* is very striking, and has attracted the attention of nearly all of the describers. Walker gives the colour of the secondaries as "bright luteous, abdomen luteous"; Hulst., "bright yellow"; and Grote as "bright golden-yellow," which last seems to me to express it exactly. The yellow upper surface of the abdomen, corresponding to the colour of the hind wings, instead of the gray of the front ones, is very noticeable. Walker gives the habitat as "United States." Mr. Strecker's figure was drawn from an example taken at Indianapolis in 1874, but he afterwards received specimens from Texas. Dr. Hulst, writing in 1885, gives Ill. Neb. to Texas as its habitat; and Dr. Smith, as late as 1893, gives the same. So this discovery of *C. Illecta* is of some importance as considerably extending its range. Mr. Laing took his specimen of it in the season of 1896, at electric light.

J. ALSTON MOFFAT.

Mailed May 6th, 1898.